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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/678,402	10/03/2003	Keith Alan Miesel	009.6001 (P-11290.00)	1006
29906 7590 03/20/2009 INGRASSIA FISHER & LORENZ, P.C. 7010 E. COCHISE ROAD SCOTTSDALE, AZ 85253				
EXAMINER ALTER, ALYSSA MARGO				
ART UNIT 3762		PAPER NUMBER		
NOTIFICATION DATE 03/20/2009		DELIVERY MODE ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docketing@ifllaw.com

Office Action Summary

Application No.

10/678,402

Applicant(s)

MIESEL ET AL.

Examiner

Alyssa M. Alter

Art Unit

3762

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 December 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 4, 5, 7-10 and 25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 4, 5, 7-10 and 25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 12, 2008 has been entered.

Election/Restrictions

Due to the amendment of claim 25, the reasons for restriction have been made moot. Therefore, claim 25 has been reinstated.

Response to Arguments

Applicant's arguments with respect to claims 1, 4-5, 7-10 and 25 have been considered but are moot in view of the new ground(s) of rejection under *Stypulkowski* (US 7,286,878 B2) and *Gord et al.* (US 5,999,848).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claim 25 is rejected under 35 U.S.C. 102(b) as being anticipated by Miesel et al. (US 6,248,080 B1). Miesel et al. discloses an implantable medical system depicted, for example, in figures 1b and 1c. The system includes a central control module 100, a conductor 12, and a satellite control module 20 which is associated with at least one lead. Miesel et al. further discloses in col. 8, lines 54-62, "a plurality of IMD 100's and leads 12 may also be employed in the integrated implantable system of the present invention to permit or facilitate the acquisition of signals or data from different areas, portions or regions of the brain. In one embodiment of the present invention, lead 12 comprises a plurality of sensors such as one pressure sensor or one pressure/temperature sensor. In another embodiment of the present invention, lead 12 comprises a plurality or string of like sensors disposed along the length of lead 12".

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1, 8-10 and 25 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Stypulkowski (US 7,286,878 B2). Stypulkowski discloses an electrode array extension with an IPG 220 connected to an extension unit (EU) 226 as seen in figure 2. The examiner considers the IPG 220 to be the central control module and the EU 226 to be the satellite module. Stypulkowski

discloses that the switches can be controlled by a "source external to the body" (col. 4, lines 51) which means there is inherently wireless communication with an external programmer. Additionally, Stypulkowski discloses that "the structure and the operation of IPGs is known to those skilled in the art"(col. 3, lines 15-16). Therefore, the IPG employed in the system would inherently have a power source and a wireless receiver to communicate with an external programmer. Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the IPG as taught by Stypulkowski with a power source and a wireless receiver since it was known in the art that to incorporate a power source and a wireless receiver into IPGs in order to allow then to communicate with external programmers.

As seen in figure 3 the EU or satellite module, contains switches 310-312 which the examiner considers to be the switching module, a communication circuit 322 which the examiner considers the communication module, the controller 320 which the examiner considers the processor, a plurality of second leads 314-319 and a power source 326.

As to the signal generator located in the satellite module, the examiner considers the power source or battery 326 to be a signal generator since the battery dispenses a voltage or signal.

Furthermore, "controller 320 may include hardware or software to recognize programming signals and for programming wave shaping circuits 306-308 and/or switches 310-312" (col. 5, lines 4-7). Therefore, since the controller 320 contains hardware/software it contains memory to store the software.

As to addition components, Stypulkowski is silent about the satellite module containing a sense amp and A/D converter. However, the system includes biomedical sensors which would necessarily include a sense amp and A/D converter. In addition, since the "wave shaping circuits 306-308 may be implemented with a variety of electrical components including potentiometers and integrated circuits" (col. 4, lines 34-36), the system would necessarily contain a sense amp and a A/D converter.

In the alternative, although the examiner considers Stypulkowski to disclose a sense amp and a A/D converter above, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ a sense amp and an A/D converter since such a modification would provide the predictable result of amplifying a signal and converting the signal between analog and digital format in order to store enhance the analysis and storage of the signals. Furthermore, it is well known in the art to employ sense amps and A/D converts when recording and/or transmitting signals to the body.

2. Claims 1, 45, 8-10 and 25 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Gord et al. (US 5,999,848). Gord et al. discloses a controller, which the examiner considers to be a central control module, and sensor/stimulator(s) which the examiner considers to be satellite module(s). As seen in figure 2, the controller 20 is connected to at least one satellite module 18 by two conductors 14' and 16'. Gord et al. discloses in col. 3, lines 14-16, that the controller is "typically an implantable controller (or an implantable transceiver that is in communication with an external controller)". Therefore the

controller possesses a wireless receiver for receiving power and programming information. The examiner further considers 14' to be the first lead connecting the controller to the satellite module. Additionally, the examiner considers the plurality of leads to be the conductors 16', 14", 16", etc. connected to the satellite module 18a.

As to the satellite module, the circuitry of the implantable sensor/stimulator device or satellite module is depicted in figure 5C. Gord et al. discloses in col. 4, lines 35-38, that the implantable sensor/stimulator includes a voltage generator or signal generator and "a converter circuit that converts the analog output signal from the sensor to a digital sensor signal". Additionally, "it should also be pointed out that any circuitry which accomplishes the function of the state machine control logic 94 could be used in lieu of, or as a supplement to, the conventional state machine control logic described above. Such circuitry includes, for example, a low power microprocessor programmed with an operating program stored in read-only memory (ROM)" (col. 15, lines 46-52). "Still referring to FIG. 5C, it is seen that the device 50" further includes a stimulator circuit 86. The stimulator circuit 86 is controlled by the state machine control logic 94. The stimulator circuit 86 generates appropriate electrical stimulation pulses, applied across one or more electrodes 82 and/or 83" (col. 15, lines 4-9). Therefore, the state machine control logic 94 inherently has a switching module for selecting which electrodes receive the stimulation signal.

In the alternative, although the examiner considers Gord et al. to discloses a switching module, it would have been obvious to one having ordinary skill in the art at

the time the invention was made to incorporate a switching module into the satellite module in order to selectively deliver stimulation signals to one or both electrodes.

In addition, the examiner considers Gord et al. to inherently incorporate a sense amplifier in order to enhance and increase the analog signal sensed from the sensors.

In the alternative, although the examiner considers Gord et al. to disclose a sense amp in the satellite module, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate a sense amp, in order to provide the predictable results of increasing the amplitude or power of the sensed and/or transmitted signals. Furthermore, it is well known in the art to employ sense amp in implantable medical devices.

3. Claims 4-5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stypulkowski (US 7,286,878 B2). Stypulkowski discloses the claimed invention except for the wireless transmission of power. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the power source as taught by Stypulkowski since such a modification would provide the predictable results of enabling the removal of the battery and thus reduce the components, size and weight of the satellite module. Furthermore, removing the battery would reduce the cost and eliminate the need to explant the when the battery is drained.

As to claim 7, Stypulkowski discloses the claimed invention except for the logic block and buffer system. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the switching module and

Art Unit: 3762

memory to include a logic block and buffer, in order to provide the predictable results of enhanced signal transmission.

4. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gord et al. (US 5,999,848). Gord et al. discloses the claimed invention except for the logic block and buffer system. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the switching module and memory to include a logic block and buffer, in order to provide the predictable results of enhanced signal transmission.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alyssa M. Alter whose telephone number is (571)272-4939. The examiner can normally be reached on M-F 8am to 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Angela Sykes can be reached on (571) 272-4955. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3762

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/George R Evanisko/
Primary Examiner, Art Unit 3762

/Alyssa M Alter/
Examiner
Art Unit 3762